Hearn VERESCHAGIN Lake Baika

90022nav VRSH 90-1

July 23-31, 1990

NAVIGATION LOG

CRUISE DATA INVENTORY by S. Colman

104763

90022nav

U.S.G.S.
INTEGRATED NAVIGATION SYSTEM
AND
NORTHSTAR LORAN-C NAVIGATION LOG

SHIP Vereschagin

CRUISE NO. _____

DATE 23 July - 31 July 1990

CHIEF SCIENTIST P. Hearn / D. Williams

100 K/2 hr
12,00 K/day

15/12

Nav. Log. GPS

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
90	07	23	1830			Km/hr		+051	5538	-105	1602		
		23	2330		087	8.7		052	1343	105	4623		
		23	2345		085	8.5		052	1349	106	4735		
		23	2400		262	10.4		052	1426	105	4835		
		24	1500		312	7.3		052	1342	105	4749		
			1500		244	8.2		052	1338	105	4756		
			1504		223	9.1		052	1245	105	4630		
			1600		227	9.2		052	1154	105	4509		
			1615		121	8.0		052	1104	105	4443		
			1630		036	7.8		052	1154	105	4552		
					restart								
			1845		141	8.9		052	1342	105	4511		
			1900		096	8.1		052	1332	105	4649		
			1915		096	8.1		052	1329	105	4840		
			1945		086	7.0		052	1321	105	5207		
			2000		087	6.9		052	1325	105	5344		
			2010		recollect GPS Data								
			2015		083	7.1		052	1330	105	5505		
			2030		354	6.8		052	1406	105	5558		
			2045					052	1504	105	5544		
			2100		032	7.6		052	1539	105	5637		
			2145		037	7.7		052	1801	105	5943		
			2200		049	7.7		052	1844	106	0039		
*	Local Time		2234		037	7.3		052	2032	106	0250		
*	UT	24	2245		052	7.1		052	2111	106	0338		
			2300		039	7.2		052	2153	106	0433		
			2315		043	7.0		052	2245	106	0532		
			2334		044	7.0		052	2349	106	0646		
			2345					052	2423	106	0701		
			2400					052	2428	106	0647		

1200/day

Nav Log GPS

PAGE 1

TAPE #	START / END	COMMENTS AND OBSERVATIONS
7/23		~~WPØ1: 52° 15' 00" N 105° 50' 00" E~~
		~~WPØ2 52° 27' 00" N 106° 07' 00" E~~
		~~WPØ3 52° 36' 30" N 106° 41' 30" E~~
		~~WPØ4 52° 40' 30" N 106° 49' 30" E~~
B:Temp1		log ON 2330 Hrs 07/23/90 12 sec repeat fish
Local		0018 Boomer in water / Problems w/fish
		0035 Boomer ON - Problems w/ Power - twig rewiring
		0130 stop Data logging 100K on Disk;
B:Data1		0345 restart logging underway to WPØ1
		0543 Arrive WPØ1
		0630 clear waypoints
		New WPØ1 Site selected 52°24'00" N 106°7'30" E station 1 coring
		WPØ2 52° 29' 00" N 106° 16' 00" E
		WPØ3 52° 40' 30" N 106° 49' 30" E
(UT 2230)		0730 / GPS solution error / start VHS Tape
UT →		2340 Arrive on station 305 Sekenga Delta

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
90	07	24	0015					052	2430	106	0638		
			0030					052	2433	106	0624		
			0045					052	2431	106	0611		
			0100					052	2401	106	0639		
			0114					052	2402	106	0643		?
			0119					052	.	106	.		?
									.		.		
									.		.		
									.		.		
90	07	24	0541	01				052	2406	106	0738		
			0545					052	2354	106	0716		
			0606					052	2400	106	0733		
			0611					052	2403	106	0732		
			0631					052	2408	106	0725		
			0634					052	2408	106	0723		
			0700					052	2400	106	0729		
			0702					052	2359	106	0725		
			0720					052	2404	106	0730		
			0723					052	2404	106	0726		
									.		.		
90	07	24	1030	01	051	11.6		052	2339	106	0614		
			1045		048	8.3		052	2433	106	0743		
			1101		051	5.8		052	2519	106	0906		
			1120		051	7.6		052	2610	106	1041		
			1130		054	7.7		052	2630	106	1119		
			1145		047	7.9		052	2734	106	1300		
			1200		053	7.8		052	2803	106	1410		
			1215		048	8.4		052	2844	106	1526		
			1238		071	8.3		052	2938	106	1750		
			1245		068	8.3		052	2941	106	1838		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE _____
			Station 305 Selenga Delta	
			Core over the side; data port on - only 2 satellites available - more needed Sta. # 305 A1	
			Core hit - only 2 satellites available - more needed, (core up @ 0125), (on deck @ 0130)	
			1st mate turned off Magellan because only 2 satellites - Paul going to new datafile for logging = DATA2	
Local			1421 reacquire GPS using 2D Mode	
			1424 Log on Data transfer to B:Data2	
			core over side (15ft)	
0545			core hit water depth = 290 m Sta # 305 A2 bottom 5ft section broken off - empty core	
			core over side (15ft)	
0611			core hit water depth = 290 m Sta # 305 A3 bottom 5ft. section broken off empty core	
			core over side (10ft)	
0634			core hit water depth = 295 m Sta # 305 A4 success	
			core over side (10ft)	
0702			core hit water depth = 290 m Sta # 305 A5	
			core over side (10ft)	
0723			core hit water depth = 290 m Sta # 305 A6	
UT →			1017 fish in water. En route to WPØ2	

YR	MO	DAY	TIME (UT)	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
90	07	24	1300	01	055	8.5		052	3013	106	2009		
			1345		Bad Data 071	8.6		052	3144	106	2448		
			1400		070	8.9		052	3213	106	2620		
			1415		066	9.3		052	3290	106	2749		
			1430		063	8.7		052	3325	106	2919		
			1445		057	7.9		052	3402	106	3052		
			1500		065	8.4		052	3433	106	3204		
			1530		057	7.6		052	3551	106	3521		
			1600		062	8.1		052	3707	106	3821		
			1630		059	7.8		052	3814	106	4111		
			1700		062	8.1		052	3916	106	4401		
			1730		058	9.8		052	4035	106	4806		
			1800		063	9.1		052	4136	106	5148		
			1830		070	8.3		052	4231	106	5505		
			1900		058	8.9		052	4352	106	5915		
			1930		045	8.5		052	4536	107	0156		
			2000		044	8.3		052	4642	107	0419		
			2030		049	7.8		052	4842	107	0618		
			2100		057	8.1		052	5005	107	0847		
			2130		053	8.1		052	5135	107	1140		
			2200		056	8.6		052	5258	107	1442		
			2230		056	8.7		052	5428	107	1804		
			2300		054	9.2		052	5546	107	2101		
			2330		058	9.2		052	5708	107	2426		
			2400		053	9.5		052	5848	107	2748		
90	07	25	0030		On station			053	0002	107	2953		
90	07	25	0054		On station			052	5959	107	2927		
			0108		On station			052	5956	107	2914		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
Data3			1ST 1310 - 1325 Satellite fix lost	
			1325-13 Data quality low	
			1438 change Diskette on computer	
			WPØ5	
			WPØ6	
			WP	
7/25/90			2423 Arrive on station (WPØ4) 306	Central Basin Near Olkhon Island
			2455 Corer in water (over side)	
			Station 306 - Near Olkhon Island	
			core over side (10ft)	
7/26/90			Core hit 0010 chart depth = 1600m winch depth = depth sander = 1700m	Sta # 306 A1
			Back on board 0035 10' core taken	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ± MINUTES	LONGITUDE ± DEGREES ± MINUTES	TYPE	QUAL.
								.	.		
								.	.		
								.	.		
								.	.		
								.	.		
90	07	25	0300		on station			053 0000	107 2830		
			0315		on station			052 5942	107 2822		
			0348		on station			052 5938	107 2804		
			0403		"			.	.		
			0500					053 0000	107 3000		
			0515					052 5955	107 2946		
			0557					052 5947	107 2927		
			0609					052 5939	107 2904		
								.	.		
90	07	25	0815					053 0044	107 3137		
			0830					053 0117	107 3245		
			0930		053	7.9		053 0357	107 3811		
			0947		054	7.9		053 0448	107 3945		
			1000		046	8.0		053 0523	107 4049		
			1030		046	8.3		053 0703	107 4258		
			1100		044	9.0		053 0846	107 4521		
			1130		044	8.7		053 1028	107 4743		
			1200		061	9.0		053 1200	107 5055		
			1230		062	9.5		053 1313	107 5420		
			1300		056	9.8		053 1441	107 5748		
			1330				Data Poor	053 1544	107 5831		
			1401		059	6.0		053 1728	108 0424		
			1430		---	0.0		053 1817	108 0627		
			1500		064	8.3		053 1926	108 0910		
			1530		051	8.6		053 2046	108 1159		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
7/26/90			0048 Core over side (15 feet) Station #306-A2	
			0059 Hit bottom. No satellite data. (DR) N52° 59'56" E107°29'36"	
			0128 Back on board	
file Data 2.2			3:33 Sat reacquire restart data log	
			52° 59' 41" N 107° 28' 10" E (2.1 KM from WPØ4 77° A)	
			core over side (10ft)	
			core hit bottom Station 306-A3	
			core back on board	
			satellites down for 306-A4 overside (52°59'43" 107° 29'06")	
			Box core over side	
			Box core hit bottom 306-B1 (Box corer up empty)	
			Grab sample over side	
			Grab sample hit 306-G1 ?	
			Water sample for Ted	
			0713 Power failure computer link interrupted	
file Data 2.3			0717 restart Data transfer	
			746 Fish in water - continue on line 1 to WPØ5	
			Pos: 52° 59' 16" N 107° 28' 28" E	
			0815 Reduce speed to 7 KM/hR (105 RPM)	
			WPØ5 53° 25' 00" N 108° 19' 00" E 66	18 / 8) 147
			WPØ6 53° 28' 30" N 108° 26' 00" E 10	8 / 67
			WPØ7 53° 32' 45" N 108° 27' 00" E 8	64
			WPØ8 53° 44' 00" N 107° 53' 00" E 43	30
			WPØ9 53° 35' 30" N 108° 04' 00" E 20 / 147	
			0815 ON line 1 - Start	
			0825 increase speed to 8 KM/hr (110 RPM)	
			WP1Ø 53° 16' 30" N 108° 31' 00" E	
			1330 change Data Disk	
			1420 stop to tune seismic	
			1434 restart	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	LATITUDE MINUTES	LONGITUDE ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.
			1600		050	8.4		053	2226	108	1443		
			1630		052	9.1		053	2402	108	1735		
			1646		046	8.8		053	2500	108	1900		
			1700		050	8.6		053	2532	108	2020		
			1730		047	8.5		053	2721	108	2310		
			1754		020	8.9		053	2830	108	2535		
			1800		019	9.3		053	2853	108	2547		
			1830		015	9.4		053	3132	108	2618		
			1843		298	9.0		053	3244	108	2637		
			1900		297	9.5		053	3321	108	2423		
			1930		295	9.9		053	3421	108	2016		
			2000		293	8.5		053	3516	108	1645		
			2030		300	9.1		053	3614	108	1315		
			2100		307	8.0		053	3738	108	1024		
			2130		313	8.3		053	3916	108	0730		
			2200		306	7.8		053	4020	108	0422		
			2230		296	8.0		053	4116	108	0057		
			2300		299	8.0		053	4211	107	5730		
			2355										
			0330		— — —	—		053	3535	107	0421		
			0351		261	5.8		053	3544	107	0437		

TAPE #	START	END	COMMENTS AND OBSERVATIONS (UT)	PAGE ____
7/26/90			2355 at WPØ8 EOL#3 53° 44' 29" N 107° 52' 25" E	
			Sat schedule for 7/26/90 - 7/27/90	
			UP 3:05 UT (1205 Local)	
			DOWN 3:45 UT (1245)	
			UP 4:50 UT (1350)	
			DOWN 12:55 UT (2155)	
			UP 13:15 UT (2215) — 7/27/90	
			DOWN 19:40 UT (0240)	
			UP 19:55 UT (0255)	
			DOWN 0:55 UT (0955)	
			2400 - 0130 Testing HUNTEC	
			0200 Pull fish	
			0215 underway to WPØ9 Academician Ridge - Station 307	
			0330 Data log on stop at 0.5 KM from WPØ9	
			0350 start short 3.5 run over WPØ9	
	0345		Sat DOWN Data log off	
	0400		Recive Sat	
			93° 35' 13" N 307-B1 Box Corer on the way up	
			108° 04' 39" E	
			Data log on	
			0543 Station 307 All Corer on Bottom 53° 35' 16" N 108° 03' 58" E	
			0605 Core 307-A2 on Bottom (Position Not Noted)	
			0614 53° 35' 00" N 108° 03' 53" E Depth 320M	
			0632 Core 307-A3 on Bottom 53° 35' 27" N 108° 03' 58" E	
			Depth 335M	
			0648 Core 307-A4 on Bottom 53° 35' 22" N 108° 03' 58" E	
			Depth 325M	
			0705 LV WPØ9 enroute WPØ5	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
90	07	26	1506	04	013	4.5		53	1632	-108	3115		
			1530	04	318	9.9		53	1750	108	2913		
			1600	04	323	9.6		53	1937	108	2617		
			1630	04	327	8.9		53	2125	108	2328		
			1700	04	326	7.1		53	2314	108	2053		
			1730	04	327	8.8		53	2512	108	1822		
			1800	04	334	8.4		53	2708	108	1604		
			1830	04	327	8.4		53	2858	108	1341		
			1900	04	334	7.1		53	3046	108	1146		
			1930	04	322	7.7		53	3210	108	0941		
			2000	04	317	7.6		53	3354	108	0632		
			2030	04	314	7.6		53	3520	108	0410		
			2100	04	312	8.2		53	3643	108 [illegible]	122		
			2134	04	320	8.4		53	3827	107 [illegible]	18		
			2200	04	315	8.8		53	3950	107	5532		
			2300	04	338	7.3		53	4146	107	52[illegible]2		
			2358	04	036	10.3		53	4345	107	5239		
90	07	27	1441	05	354	8.3		5532	27	109	4437		
			1500		155	8.1		5531	09	109	4547		
			1530		273	6.0		5529	21	109	4710		
			1600		032	10.7		5529	48	109	4504		
			1630		032	9.1		5531	53	109	4654		
			1700		193	8.6		5531	03	109	4729		
			1800		007	6.4		5529	24	109	4607		

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
			1450 Arrive WP 10	
			Data Disk full, some Data lost	
			replace disk New file Data 4.1	
			1505 SOL #4 (MCS Line #9)	
			core locations station 308 - North Central Basin	
			(UT)	
			0030 308-A1 53° 24' 52" N 108° 18' 56" E 170 M	
			308 A2 53° 24' 58" N 108° 18' 56" E 1715 M	
			308 A3 53° 24' 55" N 108° 19' 03" E	
			308 A4 sat lost	
			7/27/90 local 0758 EOL #4 (MCS #9)	
			UT 1058 2258	
			Data files Data 5.1, Data 5.2, Data 5.3	
			7/27/90 1441 (UT) SOL #5 Grid around	
			156° M Hydrothermal vent	
			1527 change course to 276° M	
			1550 change course 035° M	
			109° 44' 35" N 55° 29' 21" E	
			1615 crossing vent (Buoy)	
			1638 change course 186° M	
			1700 change course 276° M	
			1713 Crossed vents	
			1723 change course 186° M	
			1743 change course 96° M	
			1800 change course 6° M	

55° 32' 25" N
109° 17' 37" E
55° 31' 01" N
109° 47' 30" E
55° 30' 57" N
109° 45' 38" E
55° 30' 37" N
109° 44' 36" E
55° 29' 30" N
109° 44' 26" E
55° 29' 24"
109° 46' 07"

YR	MO	DAY	UT TIME	LINE #	SHIPS COURSE	SHIPS SPD	FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
90	07	28	2045	6	209	8.3		55	01.4	109	172.0		
			2100	6	207	8.6		55	00.7	109	163.1		
			2130	6	206	9.1		54	58.6	109	145.2		
			2203	6	214	7.8		54	56.3	109	133.5		
			2230	6	209	8.3		54	54.7	109	120.5		
			2300	6	222	8.9		54	51.0	109	100.7		
			2310	6	---	—		54	51.0	109	092.9		

7/28/90 (Local)

TAPE #	START	END	UT	COMMENTS AND OBSERVATIONS	PAGE ____
			1818	Cross vant 55° 30' 30" N 109° 45' 56" E	
			1837	change course to [illegible] 109° 45' 56" E	
			1849	change course to [illegible] 109° 44' 24" E	
			[illegible]33	change course to 96°	
			~~20~~	20:24 [illegible] 51' 36" N 47' 23" E	
			20:34	276°	
			05:45	K 186° 55° 32' 28" N 109 46' 06" E	
			21:02:00.	55 31 13 109 46 00	
			7/29/90		
			0530 Local	(7/28/90 2030 UT)	
			Data files	Data6.1 - 6.4	
			Begin transect of 3.5 KHZ for Kovabanov		
			Start	55° 01' 48" N 109° 18' 00" E (WP 20)	
			End	54° 51' 30" N 109° 09' 30" E (WP 22)	
			2030	Data log on	
			2041	start transect course 213° M	
			2151	ship stopped captain misunderstood directions	
				stopped at transect mid-point	
				54° 56' 42" N 109° 13' 55" E	
			2310	EOL	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES ±	LATITUDE MINUTES	LONGITUDE ± DEGREES ±	LONGITUDE MINUTES	TYPE	QUAL.
90	07	30	0448	7	104	11.5		+052	2820	-105	5559		
			0500	7	089	9.3		052	2808	105	5752		
			0530	7	113	9.4		052	2764	105	0056		
			0600	7	125	8.9		052	2555	106	0017		
			0630	7				052	2454	106	0737		
			0700	7	118			052	2343	106	1102		
			0730	7	119	9.2		052	2233	106	1454		
			0[illegible]										
			0805	7	---	—		052	2400	106	0730		

TAPE #	START END	COMMENTS AND OBSERVATIONS	PAGE ____
		7/30/90 0320 UT Data files Data7.1	
		Enroute from Bukhta Peschowaya to WP23	
		Line # 7 to be run WP23 → WP01 (coring stn 310) → WP24	
		WP24 to be coring station 310	
		WP23 Lat 52° 28' 30" N Long 105° 57' 00" E	
		WP01 Lat 52° 24' 00" N long 106° 7' 30" E	
**		WP24 Lat 52° 21' 15" N long 106° 12' 30" E	
		WP23 – WP24 22.1 KM	
		~~Data log on~~	
		Sat schedule 7/30/90 7/31/90	
		up 0240	
		DOWN 0320	
		UP 0425	
		DOWN 1925	
		UP 1945	
		DOWN 2120	
		UP 2145	
		DOWN 0035	
0443		Moved end of line # 7 closer in to shore 250	
0445		Data log on	
		New WP23 Lat 52° 28' 20" Long 105° 55' 59" E	
0448		SOL # 7	
0745		EOL # 7	
	**	Note Soviet Bathy chart off – at 100 M isobath Actual	
		Depth is ≤ 20 M. Use extreme caution in	
		this area next year!	

YR	MO	DAY	TIME	LINE #	SHIPS COURSE	SHIPS SPD	NAVIGATION FIX TIME	LATITUDE ± DEGREES	LATITUDE ± MINUTES	LONGITUDE ± DEGREES	LONGITUDE ± MINUTES	TYPE	QUAL.
40	07	30	1140	8	---	—		52	2251	106	1436		
40	07	30	1200	8	219	8.0		52	1402	105	5529		
			1230	8	21[illegible]	6.8		52	1231	105	5337		
			1400	8	224	5.0		52	0792	105	4802		
			1433	8	224	6.4		52	0619	105	4537		
			1500	8	230	7.0		52	0513	105	4328		
			1530	8	229	6.9		52	0406	105	4110		
			1600	8	231	6.9		52	0300	105	3914		
			1630	8	233	6.9		52	0141	105	3711		
			1700	8	229	6.2		52	0030	105	3532		
			1730	8	229	6.2		51	5922	105	3317		
			1800	8	240	5.7		51	5828	105	3111		
			1830	8	235	6.0		51	5736	105	2901		
			1900	8	227	6.3		51	5630	105	2693		
			1930	8	227	5.7		51	5519	105	2501		
			2000	8	228	7.1		51	5488	105	2249		
			2030	8	232	7.1		51	5251	105	2034		
			2100	8	245	7.4		51	5141	105	1809		
			2130	8	236	8.1		51	5030	105	1573		
			2200	8	247	7.6		51	4932	105	1242		
			2230	8	247	7.3		51	4813	105	1001		
			2300	8	235	7.6		51	4701	105	0732		
			2330	8	230	7.8		51	4530	105	0510		
			2400	8	232	8.5		51	4405	105	0232		
			0030										
			0										

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
			Line # 8 WP01 —> WP25 —> WP26	
			WP01 lat 52 15' 00" long 105° 56' 00" 25 KM 1 Hr	
			WP25 lat 51° 56' 30" N Long 105° 27' 00" E 48 KM	
			WP26 Lat 51° 42' 30" N Long 105° 00' 00" E 40 KM	
			Station 310 arrive 0749 Selenga Delta - ~East of 305 along line 8	
			core 310 A1 0805 Depth 100m 52° 22' 37" N 106° 13' 52" E	
			core 310 A2 0814 Depth 90m 52° 22' 41" N 106° 14' 19" E	
			core 310 A3 0830 Depth 90m 52° 22' 40" N 106° 14' 40" E	
			Box core 310 B1 0845 Depth 75M 52° 22' 51" N 106° 15' 19" E	
			Grab 310 G1 0935 Depth 105M 52° 22' 48" N 106° 14' 17" E	
			Benthos core 310 A4 0945 Depth 100M 52° 22' 51" N 106° 14' 26" E	
			1140 Start line 8 52° 22' 51" N 106° 14' 26" E	
			0030 SatNav lost	
			0035 End line 8	
			Sat Schedule	
			0230 up	
			0310 DOWN	
			0335 up	
			1245 DOWN	
			1330 up	
			1920 DOWN	
			1940 up	
			2110 DOWN	
			0255 arrive station 311 51° 42' 31" N 105° 00' 04" E	
			Depth 1510 M	

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____

Station 311 Central Southern Basin

0311 core A1 Depth 1510 M 51°42'29" N 105°00'13" E

0407 core A2 Depth 1510 M 51°42'39" N 105°00'54" E

0505 core A3 Depth 1510 M 51°42'36" N 105°00'19" E

0628 core A4 Depth 1510 M 51°42'28" N 105°00'12" E

Station 311 washed out – 4 gravity cores attempted with no recovery – 2 benthos cores also failed.

TAPE #	START	END	COMMENTS AND OBSERVATIONS	PAGE ____
			7/28/90 Sampling Hydrothermal vent area	
			Station 309	
UT 0000			(0900 local) on station 445 M	
			Gravity corer tried 4 times - failed to penetrate sand	
			UT 0100 - 3 benthos cores collected by Callender	
			55°30'57" N 109°46'07" E	
			UT 0630 - moved ~ 195 North of vent buoy 55°31'04" N 109°46'19" E	
			NO luck with large gravity core	
			Callender collected another benthos core	